

10/533361

JC20 Rec'd PC/PTO 29 APR 2005

## SEQUENCE LISTING

&lt;110&gt; Horticulture Research International

&lt;120&gt; SELECTIVE EXPRESSION IN FILAMENTOUS FUNGI

&lt;130&gt; WPP86709

&lt;150&gt; UK 0225390.4

&lt;151&gt; 2002-10-31

&lt;160&gt; 37

&lt;170&gt; PatentIn version 3.1

&lt;210&gt; 1

&lt;211&gt; 1736

&lt;212&gt; DNA

&lt;213&gt; Agaricus bisporus

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (19)..(1674)

&lt;223&gt;

```

<400> 1
ggctgagctc tattcatc atg gcg tcg gaa cga cag att gaa gaa ctt ccc      51
                Met Ala Ser Glu Arg Gln Ile Glu Glu Leu Pro
                1                5                10

agt tat aag tac gcc tat att ttg acg gca tcg gct tgc ttg gga agt      99
Ser Tyr Lys Tyr Ala Tyr Ile Leu Thr Ala Ser Ala Cys Leu Gly Ser
                15                20                25

gtg ttt cac ggg tgg gat gta ggc ctt ata gga ggc ata ctc tcg cta      147
Val Phe His Gly Trp Asp Val Gly Leu Ile Gly Gly Ile Leu Ser Leu
                30                35                40

cgg tca ttt caa gaa tat ctc ggg atc aat aca aaa aat gcc gtc aag      195
Arg Ser Phe Gln Glu Tyr Leu Gly Ile Asn Thr Lys Asn Ala Val Lys
                45                50                55

aaa gcg att cta gac gga aac atc atc tct gtg ctc caa gcc gga tgt      243

```

Lys	Ala	Ile	Leu	Asp	Gly	Asn	Ile	Ile	Ser	Val	Leu	Gln	Ala	Gly	Cys		
60					65					70					75		
ttt	ttt	ggc	gcg	ctt	gga	acc	gga	tat	ctc	tct	agt	cga	ttc	ggc	cga	291	
Phe	Phe	Gly	Ala	Leu	Gly	Thr	Gly	Tyr	Leu	Ser	Ser	Arg	Phe	Gly	Arg		
				80					85					90			
aga	ccc	tgt	ctt	att	gca	tct	ggt	att	gtg	tat	ata	act	ggc	ggt	ttg	339	
Arg	Pro	Cys	Leu	Ile	Ala	Ser	Gly	Ile	Val	Tyr	Ile	Thr	Gly	Gly	Leu		
			95					100					105				
ctg	caa	tgc	act	gtc	ggt	ttg	gga	ccc	tcg	caa	gct	gct	gct	cta	cac	387	
Leu	Gln	Cys	Thr	Val	Gly	Leu	Gly	Pro	Ser	Gln	Ala	Ala	Ala	Leu	His		
		110					115					120					
gtg	ttc	tat	att	ggc	agg	ttc	att	tct	ggt	atc	ggt	gtt	ggg	atg	gtg	435	
Val	Phe	Tyr	Ile	Gly	Arg	Phe	Ile	Ser	Gly	Ile	Gly	Val	Gly	Met	Val		
		125				130					135						
tcc	act	ctc	gtg	cct	ttg	tat	att	tcg	gag	tgt	gtc	cct	agg	act	ata	483	
Ser	Thr	Leu	Val	Pro	Leu	Tyr	Ile	Ser	Glu	Cys	Val	Pro	Arg	Thr	Ile		
					145					150					155		
cgc	ggg	gcg	tgt	act	gga	aca	ctc	caa	ttt	gcg	act	aac	agt	ggt	ctg	531	
Arg	Gly	Arg	Cys	Thr	Gly	Thr	Leu	Gln	Phe	Ala	Thr	Asn	Ser	Gly	Leu		
				160					165					170			
atg	ctg	ggc	ttc	tgg	gtc	aac	tac	agc	gtg	tcg	aaa	aac	gtg	ccc	ttt	579	
Met	Leu	Gly	Phe	Trp	Val	Asn	Tyr	Ser	Val	Ser	Lys	Asn	Val	Pro	Phe		
			175					180					185				
ggt	gaa	atg	caa	tgg	cga	att	ccg	tta	att	atc	caa	atg	att	ccg	agc	627	
Gly	Glu	Met	Gln	Trp	Arg	Ile	Pro	Leu	Ile	Ile	Gln	Met	Ile	Pro	Ser		
			190				195					200					
ctc	ttg	ttc	atc	ata	gcc	atg	ttt	ttc	caa	cca	gaa	tcg	ccg	aga	tgg	675	
Leu	Leu	Phe	Ile	Ile	Ala	Met	Phe	Phe	Gln	Pro	Glu	Ser	Pro	Arg	Trp		
		205				210					215						
ctt	gtt	gaa	cac	ggg	aaa	cac	aag	gaa	gct	gcg	acg	gta	ctg	gcg	cgt	723	
Leu	Val	Glu	His	Gly	Lys	His	Lys	Glu	Ala	Ala	Thr	Val	Leu	Ala	Arg		
				225					230					235			
act	ggc	ggc	aag	gat	gtt	gat	cat	cct	agt	gtt	gta	cag	aca	ctg	gag	771	
Thr	Gly	Gly	Lys	Asp	Val	Asp	His	Pro	Ser	Val	Val	Gln	Thr	Leu	Glu		
				240				245						250			
gag	atc	aag	caa	gaa	ttt	gtg	gcg	agt	aaa	caa	cca	tcg	ttt	tta	aag	819	
Glu	Ile	Lys	Gln	Glu	Phe	Val	Ala	Ser	Lys	Gln	Pro	Ser	Phe	Leu	Lys		
			255					260					265				
cag	att	cgc	ctg	gtc	ggt	gaa	tcg	agg	gct	gtt	gcc	ctg	agg	tgc	ttt	867	
Gln	Ile	Arg	Leu	Val	Gly	Glu	Ser	Arg	Ala	Val	Ala	Leu	Arg	Cys	Phe		
			270				275					280					
ata	cca	ccg	cta	gtg	atg	ttc	ttc	cag	cag	tgg	acg	ggt	aca	aat	gcc	915	
Ile	Pro	Pro	Leu	Val	Met	Phe	Phe	Gln	Gln	Trp	Thr	Gly	Thr	Asn	Ala		
			285			290					295						
atc	aac	ctt	tat	agt	ccc	gaa	gta	ttc	cgt	cat	ctt	gga	atc	cat	ggc	963	
Ile	Asn	Leu	Tyr	Ser	Pro	Glu	Val	Phe	Arg	His	Leu	Gly	Ile	His	Gly		
			300			305			310					315			
acc	agc	ggg	gct	ctc	ttc	gct	act	ggt	gtt	tat	ggc	gtg	gtg	aag	gtt	1011	
Thr	Ser	Gly	Ala	Leu	Phe	Ala	Thr	Gly	Val	Tyr	Gly	Val	Val	Lys	Val		
				320					325					330			
gtt	tca	gtt	gca	ctt	gcc	ctc	act	ttt	gct	gtc	gaa	cgc	ttt	gga	cgc	1059	

Val	Ser	Val	Ala	Leu	Ala	Leu	Thr	Phe	Ala	Val	Glu	Arg	Phe	Gly	Arg	
			335					340					345			
aag	aga	ggg	ttg	att	ttt	ggt	ggt	atc	ggc	caa	gca	ctt	atg	atg	ttt	1107
Lys	Arg	Gly	Leu	Ile	Phe	Gly	Gly	Ile	Gly	Gln	Ala	Leu	Met	Met	Phe	
		350					355					360				
ttg	ttg	gga	ggt	tat	agt	gcc	acc	cac	caa	gac	ggt	act	gtc	agt	cct	1155
Trp	Leu	Gly	Gly	Tyr	Ser	Ala	Thr	His	Gln	Asp	Gly	Thr	Val	Ser	Pro	
		365				370					375					
gcg	agt	cat	gtt	tcc	att	gtt	gca	ctc	tac	ttg	tat	ggt	gca	ttc	ttc	1203
Ala	Ser	His	Val	Ser	Ile	Val	Ala	Leu	Tyr	Leu	Tyr	Gly	Ala	Phe	Phe	
380					385					390					395	
tcc	atg	gga	tgg	ggc	cca	tta	cca	tgg	gtc	gtc	gct	gga	gag	gtt	gca	1251
Ser	Met	Gly	Trp	Gly	Pro	Leu	Pro	Trp	Val	Val	Ala	Gly	Glu	Val	Ala	
				400					405					410		
cct	aac	cat	gtc	cgc	tcc	ttc	gcc	ctc	tcc	atc	gcc	gtt	gga	act	cat	1299
Pro	Asn	His	Val	Arg	Ser	Phe	Ala	Leu	Ser	Ile	Ala	Val	Gly	Thr	His	
			415					420					425			
ttg	ctc	ttc	ggg	ttt	gtg	ata	tca	aaa	gtg	acg	cca	att	atg	ttg	gac	1347
Trp	Leu	Phe	Gly	Phe	Val	Ile	Ser	Lys	Val	Thr	Pro	Ile	Met	Leu	Asp	
		430					435					440				
cgt	atc	aaa	tat	ggc	aca	ttc	cta	ctc	ttc	gga	ttc	tgt	tgc	atg	ata	1395
Arg	Ile	Lys	Tyr	Gly	Thr	Phe	Leu	Leu	Phe	Gly	Phe	Cys	Cys	Met	Ile	
		445				450				455						
gta	gcg	aca	tgg	gct	tat	ttc	tgt	cta	cct	gag	aca	agt	ggg	ttc	gct	1443
Val	Ala	Thr	Trp	Ala	Tyr	Phe	Cys	Leu	Pro	Glu	Thr	Ser	Gly	Phe	Ala	
460					465					470					475	
ctg	gag	gac	atc	aaa	tat	ctg	ttc	gag	cga	gac	gtc	atc	att	cgt	tca	1491
Leu	Glu	Asp	Ile	Lys	Tyr	Leu	Phe	Glu	Arg	Asp	Val	Ile	Ile	Arg	Ser	
				480					485					490		
ttg	cag	gac	gct	ccc	ggt	gga	aaa	ata	ttc	ttg	ggg	ggg	agg	cgt	gtg	1539
Leu	Gln	Asp	Ala	Pro	Gly	Gly	Lys	Ile	Phe	Leu	Gly	Gly	Arg	Arg	Val	
			495					500					505			
gaa	tct	gta	gct	tcg	ttg	aaa	gag	agg	cgc	gtt	gga	gtc	gct	ggt	gag	1587
Glu	Ser	Val	Ala	Ser	Leu	Lys	Glu	Arg	Arg	Val	Gly	Val	Ala	Gly	Glu	
		510						515				520				
cag	ggt	gag	aag	ata	act	ggt	cta	aat	tcg	gaa	ttg	gaa	gat	gtt	tcc	1635
Gln	Gly	Glu	Lys	Ile	Thr	Gly	Leu	Asn	Ser	Glu	Leu	Glu	Asp	Val	Ser	
		525				530					535					
tca	aaa	aaa	tca	aca	ttg	aag	gaa	act	tca	tcc	gtt	tga	tatatagtct			1684
Ser	Lys	Lys	Ser	Thr	Leu	Lys	Glu	Thr	Ser	Ser	Val					
540					545					550						
ccaaattcta	ttgtaatgcc	atthtcccaa	ttcaaaaaaa	aaaaaaaaaa	aa											1736

<210> 2

<211> 551

<212> PRT

<213> Agaricus bisporus

<400> 2

Met Ala Ser Glu Arg Gln Ile Glu Glu Leu Pro Ser Tyr Lys Tyr Ala  
1 5 10 15

Tyr Ile Leu Thr Ala Ser Ala Cys Leu Gly Ser Val Phe His Gly Trp  
20 25 30

Asp Val Gly Leu Ile Gly Gly Ile Leu Ser Leu Arg Ser Phe Gln Glu  
35 40 45

Tyr Leu Gly Ile Asn Thr Lys Asn Ala Val Lys Lys Ala Ile Leu Asp  
50 55 60

Gly Asn Ile Ile Ser Val Leu Gln Ala Gly Cys Phe Phe Gly Ala Leu  
65 70 75 80

Gly Thr Gly Tyr Leu Ser Ser Arg Phe Gly Arg Arg Pro Cys Leu Ile  
85 90 95

Ala Ser Gly Ile Val Tyr Ile Thr Gly Gly Leu Leu Gln Cys Thr Val  
100 105 110

Gly Leu Gly Pro Ser Gln Ala Ala Ala Leu His Val Phe Tyr Ile Gly  
115 120 125

Arg Phe Ile Ser Gly Ile Gly Val Gly Met Val Ser Thr Leu Val Pro  
130 135 140

Leu Tyr Ile Ser Glu Cys Val Pro Arg Thr Ile Arg Gly Arg Cys Thr  
145 150 155 160

Gly Thr Leu Gln Phe Ala Thr Asn Ser Gly Leu Met Leu Gly Phe Trp  
165 170 175

Val Asn Tyr Ser Val Ser Lys Asn Val Pro Phe Gly Glu Met Gln Trp  
180 185 190

Arg Ile Pro Leu Ile Ile Gln Met Ile Pro Ser Leu Leu Phe Ile Ile  
195 200 205

Ala Met Phe Phe Gln Pro Glu Ser Pro Arg Trp Leu Val Glu His Gly  
210 215 220

Lys His Lys Glu Ala Ala Thr Val Leu Ala Arg Thr Gly Gly Lys Asp  
225 230 235 240

Val Asp His Pro Ser Val Val Gln Thr Leu Glu Glu Ile Lys Gln Glu  
245 250 255

Phe Val Ala Ser Lys Gln Pro Ser Phe Leu Lys Gln Ile Arg Leu Val  
260 265 270

Gly Glu Ser Arg Ala Val Ala Leu Arg Cys Phe Ile Pro Pro Leu Val  
 275 280 285

Met Phe Phe Gln Gln Trp Thr Gly Thr Asn Ala Ile Asn Leu Tyr Ser  
 290 295 300

Pro Glu Val Phe Arg His Leu Gly Ile His Gly Thr Ser Gly Ala Leu  
 305 310 315 320

Phe Ala Thr Gly Val Tyr Gly Val Val Lys Val Val Ser Val Ala Leu  
 325 330 335

Ala Leu Thr Phe Ala Val Glu Arg Phe Gly Arg Lys Arg Gly Leu Ile  
 340 345 350

Phe Gly Gly Ile Gly Gln Ala Leu Met Met Phe Trp Leu Gly Gly Tyr  
 355 360 365

Ser Ala Thr His Gln Asp Gly Thr Val Ser Pro Ala Ser His Val Ser  
 370 375 380

Ile Val Ala Leu Tyr Leu Tyr Gly Ala Phe Phe Ser Met Gly Trp Gly  
 385 390 395 400

Pro Leu Pro Trp Val Val Ala Gly Glu Val Ala Pro Asn His Val Arg  
 405 410 415

Ser Phe Ala Leu Ser Ile Ala Val Gly Thr His Trp Leu Phe Gly Phe  
 420 425 430

Val Ile Ser Lys Val Thr Pro Ile Met Leu Asp Arg Ile Lys Tyr Gly  
 435 440 445

Thr Phe Leu Leu Phe Gly Phe Cys Cys Met Ile Val Ala Thr Trp Ala  
 450 455 460

Tyr Phe Cys Leu Pro Glu Thr Ser Gly Phe Ala Leu Glu Asp Ile Lys  
 465 470 475 480

Tyr Leu Phe Glu Arg Asp Val Ile Ile Arg Ser Leu Gln Asp Ala Pro  
 485 490 495

Gly Gly Lys Ile Phe Leu Gly Gly Arg Arg Val Glu Ser Val Ala Ser  
 500 505 510

Leu Lys Glu Arg Arg Val Gly Val Ala Gly Glu Gln Gly Glu Lys Ile  
 515 520 525

Thr Gly Leu Asn Ser Glu Leu Glu Asp Val Ser Ser Lys Lys Ser Thr  
 530 535 540

Leu Lys Glu Thr Ser Ser Val  
 545 550

<210> 3

<211> 3638

<212> DNA

<213> Agaricus bisporus

<220>

<221> misc\_feature

<222> (3)..(3)

<223> n is an unknown nucleotide

<220>

<221> misc\_feature

<222> (14)..(14)

<223> n is an unknown nucleotide

<220>

<221> misc\_feature

<222> (510)..(510)

<223> n is an unknown nucleotide

<400> 3

gtncgatggg ttcntctggg ttaagttgca cgacgctttc ctttttcttt tatggcctgt	60
ctgccctttt aacgctttat ctttcggcag ccatggatgt ccttcgtcac cgtattatca	120
ctcttaatcg tgggtgtgag cacatggaaa ggttcattat cgtcatcca tgacgcggtg	180
caaaattcgt cattcagagt ggaaccgata ctaggagagg attttgaaaa ggctatcgta	240
tcttccgata cattcactcc aacgacatct atatcggtt ctcaagctac gataaccgtt	300
cctcacgcat cacattcttc tctgattgta atgaccgaag accgcggttc caccctaata	360
attcgaagag cttgttgcca atgtcaaaaa aggcttttgg gcaaaccggg atggcttata	420
gagcctccag ccccgagcag taacatcggg cagagaagga aaattcatcg ggcggttgaa	480
ttatcaccgt ttggttcctg agtcatctgn ragatgtacg cagatggtga taccgtgttt	540
gattggcgcc gttggagaag aactatatta ttcgatggat tttttgttcg agtttgacac	600
agagacagag atgatagagg tttgctattg atgtagcaaa ggatcatttg acgatggcgc	660

atagggcgat gggtatcttt atgtctggaa ttataatatg tattgttccc cacttttctt	720
ttatatattat taataactaat tggaagtttc agttgttga tgagcaaagt tgggtcagat	780
agaaactaga attcggattc ccatactga ggtacctttt ccttccgctg gcaatcctgg	840
ccacttcgac gtggtgacgc agagggcgcg tgctattgtt agcacatgcc atawggatcg	900
acgttgcctc tcgtacttcg cgcctaggct cgtcatgcc tcgatgcac ttttcaattc	960
gggcggtgcg tctcccagggt gcctgttaaa agggcgaaact ttagtgtaat tgtactaaca	1020
cagtcctcgc ggctgagctc tattcatcat ggcgtcggaa cgacagattg aagaacttcc	1080
cagttataag tacgcctata ttttgacggc atcggcttgc ttgggaagtg tgtttcacgg	1140
gtgggatgtg caagtatcct ttwgacgctg gctcatccct tgtttgctga tggtaaatgt	1200
gtagaggcct tataggaggc atactctcgc tacggtcatt tcaagaatat ctcgggatca	1260
atacaaaaaa tgccgtcaag aaagcgattc tagacggaaa catcatctct gtgctccaag	1320
ccggatgttt tgtaagtcgt agcactcgtt cgaccagctt actttctttt actaacaacg	1380
tgttgacctt gttttggcgc gcttgaacc ggatatctct ctagtgcatt cggccgaaga	1440
ccctgtctta ttgcatctgg tattgtgtat ataactggcg gtttgctgca atgcactgtc	1500
ggtttgggac cctcgcaagc tgctgtctta cacgtgttct atattggcag gttcatttct	1560
ggtatcggcg ttgggatggg gtccactctc gtgcctttgt atatttcgga gtgtgtccct	1620
aggactatac gcgggcgctg tactggaaca ctccaatttg cgactaacag tggctctgatg	1680
ctgggctgta agtgtacctt ttgttatgct ccggggacga tactaaaagt agtctgtagt	1740
ctgggtcaac tacagcgtgt cgaaaaacgt gccctttggt gaaatgcaat ggcgaattcc	1800
gttaattatc cagtacgtta ttgatgcaa agtgaagcat atgctgaaat tagacttgtg	1860
tcgtactttc cagaatgatt ccgagcctct tgttcatcat agccatgttt ttccaaccag	1920
aatcgccgag atggcttggt gaacacggga aacacaagga agctgcgacg gtactggcgc	1980
gtactggcgg caaggatggt gatcatccta gtgtgtgaca gacactggag gagatcaagc	2040
aagaatttgt ggcgagtaaa caaccatcgt ttttaaagca gattcgctctg gtcggtgaat	2100
cgagggctgt tgccytgagg wgctttatc caccgctagt gatgttcttc cagcagtgga	2160
cgggtacaaa tgccatcaac ctttatagtc ccgaagtatt ccgtcatctt ggaatccatg	2220
gcaycagckr kgmwstcttc sctamtsgtg tttatkmgmt ggtrmaggtt gtttcagttg	2280
cacttgcctt cacttttgct gtcgaacgct ttggacgcaa gagagggttg atttttggtg	2340
gtatcgcca agcacttatg atgttttggt tgggaggtta tagtgccacc caccaagacg	2400
gtactgtcag tcctgcgagt catgtttcca ttgttgact ctacttgtat ggtgcattct	2460
tctccactga agaattgttc ctgttabcat gggtcgtcgc tggagaggtt gcacctaacc	2520
atgtccgctc ctctgccctc tccatcgccg ttggaactca ttggctcttc gggtttgtga	2580
tatcaaaagt gacgccaatt atgttgacc gtatcaaata tggcacattc ctactcttcg	2640
gattctgttg catgatagta gcgacatggg cttatttctg tctacctgag acaagtgggt	2700

tcgctctgga ggacatcaaa tatctgttcg agcgagacgt catcattcgt tcattgcagg	2760
acgctcccgg tggaaaaata ttcttggggg ggaggcgtgt ggaatctgta gcttcgttga	2820
aagagaggcg cggttgagtc gctggtgagc agggtgagaa gataactggt ctaaattcgg	2880
aattggaaga tgtttctca aaaaaatcaa cattgaagga aacttcattcc gtttgatata	2940
tagtctccaa attctattgt aatgccattt tccaattca aaaggaccgc ctctcgaacc	3000
gggtcagatg caattttggt cagcaatggt ttatgttggt tccccgtaag tatgcactag	3060
aagagaacaa aacgtcacta ttgtctaat gcaggatgca cctggcgaga taatattcct	3120
gcggtgaagt cgaacaacgt ctgtagtcct gtaaaaatat acagtgagta gagggatgat	3180
gccgatgtgg aaggaagcaa ccgattacga ttcggatttg gccatgagac ggccgctctt	3240
gaacagacca acaatatccc tttaaattta atacagaatt actcaatatg cttccaagta	3300
tttcgattcc tcgaattccg tctggccgcg gcatgagcat ggacaggcgg acagaagagg	3360
ctatcgttgt attgcttcat caagcgaccc tgactagtga cttcaggcat gatcatgcgc	3420
ttagcaatct gtcccttcaa gtcgagtcgc cgaattcaac agctttcaac aagtcgtgat	3480
tatttgaccc ccgactggaa tcaaattggc tcttcaaatt tcaaaccctc aatgcttcat	3540
gcttcatgog tcatgacgca agctgtcaat tttcattttc cagttcggtc ccattctcac	3600
tctcgcacct cstaattgtct tccagaaaat ggcttccc	3638

<210> 4

<211> 1033

<212> DNA

<213> Agaricus bisporus

<220>

<221> misc\_feature

<222> (495)..(495)

<223> n is an unknown nucleotide

<400> 4

ctgggttaag ttgcacgacg ctttcctttt tcttttatgg cctgtctgcc cttttaacgc	60
tttatctttc ggagccatg gatgtccttc gtcaccgtat tatcactctt aatcgtggtg	120
gtgagcacat ggaagggttc attatcgtca tcccatgacg cggtgcaaaa ttcgtcattc	180
agagtgaac cgatactagg agaggatttt gaaaaggcta tcgtatcttc cgatccattc	240
actccaacga catctatatc gggttctcaa gctacgataa ccgttcctca cgcacacat	300
tcttctctga ttgtaatgac cgaagaccgc ggttccaccc ctaatattcg aagagcttgt	360
tgccaatgtc aaaaaaggct tttgggcaaa ccgggatggc ttatcgagcc tccagcccca	420



gcagctaaca tcgggcagag aaggaaaatt catcgggcgg ttgaattatc accgtttggt 480  
tcctgagtca tctgnragat gtacgcagat ggtgataccg tgtttgattg gcgccgttgg 540  
agaagaacta tattattcga tggatttttt gtctcgagttt gacacagaga cagagatgat 600  
agaggtttgc tattgatgta gcaaaggatc atttgacgat ggcgcataagg gcgatggtta 660  
tctttatgtc tggaattata atatgtattg ttccccactt ttcttttata tttattaata 720  
ctaattggaa gtttcagttg ttggatgagc aaagtgggtg cagatagaaa ctagaattcg 780  
gattcccata tctgaggtag cttttccttc cgctggcaat cctggccact tcgacgtggt 840  
gacgcagagg gcgcgtgcta ttgttagcac atgccatawg gatcgacgtt gcctctcgta 900  
cttcgcgcct aggcctcgctc atgcctcgat gcatcttttc aattcggggc ttgcgtctcc 960  
cagggtgcctg ttaaaagggc gaactttagt gtaattgtac taacacagtc cctcgggctg 1020  
agctctattc atc 1033

<210> 5

<211> 702

<212> DNA

<213> Agaricus bisporus

<400> 5

tatatagtct ccaaattcta ttgtaatgcc attttcccaa ttcaaaagga cccgctctcg 60  
aaccgggtca gatgcaattt tggcagcaa tggtttatgt tgtttccccg taagtatgca 120  
ctagaagaga acaaaacgct actatttgct caatgcagga tgcacctggc gagataatat 180  
tcttgcggtg aagtcgaaca acgtctgtag tcctgtaaaa atatacagtg agtagagga 240  
tgatgccgat gtggaaggaa gcaaccgatt acgattcgga tttggccatg agacggccgc 300  
tcttgaacag accaacaata tccctttaaa tttaatacag aattactcaa tatgcttcca 360  
agtatttcga ttctctgaat tccgtctggc cgcgcatga gcatggacag gcggacagaa 420  
gaggctatcg ttgtattgct tcatcaagcg accctgacta gtgacttcag gcatgatcat 480  
gcgcttagca atctgtccct tcaagtcgag tccccgaatt caacagcttt caacaagtcg 540  
tgattatttg acccccgact ggaatcaaat tggctcttca aatttcaaac cttcaatgct 600  
tcatgcttca tgcgtcatga cgcaagctgt caattttcat tttccagttc ggtcccattc 660  
tcactctcgc ccctcstaat gtcttcacaga aaatggcttc cc 702

<210> 6

<211> 689

<212> DNA

<213> Agaricus bisporus

<220>

<221> CDS

<222> (147)..(521)

<223>

<400> 6

```
cgccactttt tataccaacc ccaaatccaa aggttgaaaa aaaaatttcg acaaggattt      60
atatatccat ccattccgca cactttcccg ttgattcta tcccttagtc tttccttctc      120
cccccttcct tcttcacttc accttg ctc taa ccg aaa gta aac ctt tcc gcg      173
                               Leu      Pro Lys Val Asn Leu Ser Ala
                               1              5
atg aaa ttc tcc aat tct cta tcc gct ctc ctc gta tcc gca aat ctc      221
Met Lys Phe Ser Asn Ser Leu Ser Ala Leu Leu Val Ser Ala Asn Leu
    10              15              20
atg ttg gca gcg aag gcc tac aaa gga gat gcc acc ttt tat gat cct      269
Met Leu Ala Ala Lys Ala Tyr Lys Gly Asp Ala Thr Phe Tyr Asp Pro
    25              30              35              40
ggg ctg gga gct tgt ggc cat acg aat cag gct cat gaa ctt gtc gtt      317
Gly Leu Gly Ala Cys Gly His Thr Asn Gln Ala His Glu Leu Val Val
    45              50              55
gcc ctt cca tca gcc aaa tac ggc agc gga gac cat tgt tcc aag cat      365
Ala Leu Pro Ser Ala Lys Tyr Gly Ser Gly Asp His Cys Ser Lys His
    60              65              70
gtc ggc atc cac tac aaa ggc aaa tac gtg aaa gcc aaa gta gtc gac      413
Val Gly Ile His Tyr Lys Gly Lys Tyr Val Lys Ala Lys Val Val Asp
    75              80              85
aaa tgt ccc ggt tgt ggt tcg aac gat tta gac atc tca cca acc gca      461
Lys Cys Pro Gly Cys Gly Ser Asn Asp Leu Asp Ile Ser Pro Thr Ala
    90              95              100
ttc tct cac tta gcc agt caa gac ctc ggc cgt atc aaa gta gat tgg      509
Phe Ser His Leu Ala Ser Gln Asp Leu Gly Arg Ile Lys Val Asp Trp
   105              110              115              120
gaa ttt ctc tga tatccattt tcaatccctt acacgaaatc tgtatttgta      561
Glu Phe Leu
gaagaaagtc atgacgttat atagatcact tacatagatc ttcaggtttt cgtagatcga      621
cgaccgacgc tcttaaatat ttatttcccg tttttcygtt tttgttttaa aaaaaaaaaa      681
aaaaaaaaa      689
```

<210> 7

<211> 122

<212> PRT

<213> Agaricus bisporus

<400> 7

Pro Lys Val Asn Leu Ser Ala Met Lys Phe Ser Asn Ser Leu Ser Ala  
1 5 10 15

Leu Leu Val Ser Ala Asn Leu Met Leu Ala Ala Lys Ala Tyr Lys Gly  
20 25 30

Asp Ala Thr Phe Tyr Asp Pro Gly Leu Gly Ala Cys Gly His Thr Asn  
35 40 45

Gln Ala His Glu Leu Val Val Ala Leu Pro Ser Ala Lys Tyr Gly Ser  
50 55 60

Gly Asp His Cys Ser Lys His Val Gly Ile His Tyr Lys Gly Lys Tyr  
65 70 75 80

Val Lys Ala Lys Val Val Asp Lys Cys Pro Gly Cys Gly Ser Asn Asp  
85 90 95

Leu Asp Ile Ser Pro Thr Ala Phe Ser His Leu Ala Ser Gln Asp Leu  
100 105 110

Gly Arg Ile Lys Val Asp Trp Glu Phe Leu  
115 120

<210> 8

<211> 2782

<212> DNA

<213> Agaricus bisporus

<220>

<221> misc\_feature

<222> (2774)..(2774)

<223> n is an unknown nucleotide

<400> 8  
ctgcgaattg gcataagcac ttraactttc gtcttcctca ctctcttcag gagattgaga 60  
ctgcatcggg gcaagcgagg gttgccgtac cgccctttga gaccccgaaa caagggattc 120  
gtcaagagca tcaagaagac tagaacgacc ggctgttttt ccacccgaca tcatagcaca 180  
aactgtcata aaccctgtgtt caaaggggaa aaacaggcag agagaaggaa gggacgcgtc 240  
gcgatgaaat gctcattaac ctgaatgaca aactccgcw aataacaatt taattaaaaa 300  
taaaaatcac gaggtgacaa acaggggtgt ttacctccat tcgactgcat cctggctctt 360

cccttcata gaactgtcgt ccatgcatgc accgctagca tcgcactgct ctgactcgca	420
taaccttaaa acgctgggac cccctgttcg gacggccggt tcaggatccg gggctcagga	480
cacagtaaaa tcacaaaaac tcatactttg agagatatga cttctcgact tgcgccttcg	540
atggacggac aaattatccc caggtaccgg atctgtgaca ccgaattagt gcgcgatatt	600
atatatgact tttagcgggc gtctcatacg accgctcaag tccttgggga tggagaatgt	660
cacctcctgg tccaccgggc ccagagcatt acccggtcat taatctagcg cttcttgcac	720
gcactcctgc atgatcacc cagcggccg cgttttatcg gacatataag gaacaagatt	780
ccataggtag tggatccct actccacctc cgcctactt ttataccaac cccaaatcca	840
aaggttgaaa aaaaaatttc gacaaggatt tataatatcca tccatccgcg acactttctc	900
gtttgattct atcccttagt ctttccttct ccccttttcc ttcttcaactt caccttgctc	960
taaccgaaag taaacctttc cgcgatgaaa ttctccaatt ctctatccgc tctcctcgta	1020
tccgcgaatc tcatgttggc agcgaaggcc tacaaaggag atggtcagtt atgacagtgt	1080
cgcccatcct atcgtcaatg atgctgattt tgttctocca cttttttagc caccttttat	1140
gatcctggtg tacgtttttc ttacactttt caccaagatt cctcaccac tggtttcaaa	1200
attagctggg agcttgtggc catacgaatc aggtcatga acttgttgtt gcccttccat	1260
cagccaaata cggcaacgga gaccattgtt ccaagcatgt cggcatccac tgtacgtttc	1320
ctccttctcc ccacttctca aaaatcaaaa ttttactcat tgtaacaaga caaaggcaaa	1380
tacgtgaaag tcaaagtagt cgacaaatgt cccggctgtg gttcgaacga tctagacatc	1440
tcaccaaccg cattctctca gttagccagc caagacctcg gccgtatcaa agtagattgg	1500
gaatttatct aatatcccat ttcaatccct tacacgaaat ctgtacttgt agtcttagaa	1560
gaaagtcatg acgttatata gatcacttac atagatcttc aggttttctg agatcgacga	1620
ccgacgctct taaatattta ttacagttt ttctgtttt tggtttattg tcgcttggt	1680
ataagggtgt atactttgat atgattgcct acacacatat atcaacacag ttttagttat	1740
atcaacatca aaacatcagt caaggaaaac aaagagcgaa cgataaacat cagcacaagt	1800
atgtcagatt atggtccaag aacgcgaaaa gaagttcgca aaagaacaga acactatcga	1860
aaagtgcaga tacataggtc acacaattaa cgacttcccg gaatagttcc ctccaacctc	1920
ttatcgcgac tactagcacc aacggttaaca ccaaaagtac cttcaggcct cctccatccc	1980
tgtgcattca catcccaaat actcaaatca tacctcgaca aggtcatttt tacattccta	2040
gtctctccag ggccaatcgg tacagagtcg aaaccgcgta gcacggaagg aggttctcca	2100
gcagattcag ggaagttaat gtagagttgg ggagactcgg caccctaaag tcgaccggta	2160
ttcttgacgt tgaaggaaac ctctacaaa ggacgatgga gcctggaaac cggtcagcgt	2220
gaaattgttg rttagagaac cctcggcgct taccaagaag cgatagaacc accttcaact	2280
tgccggcttg catgtccttg atccattcc ctagccgcat caacttctct acctttgacg	2340
tgcactttct taatagatat cttcgagtaa tcaaacttcg tgtaactcaa gccaaaacca	2400

aattcaaacc gaggtcaat gccattctgc aagagaaaat tcagtaagcg aacgtttccg 2460  
agagaatcaa gcagcactgg cttacagcgt cgaagtgccg gtaatcgatt tgcaaacgat 2520  
catcgtatgg tatagaaaga atatctcgaa taccatctcc ggggataact tgggccgaat 2580  
aatcttcaat ccgtttggca atggtatatg gaagccttcc ggatgggttc caatctccat 2640  
ataggacatc ggtcaacgaa tttcccgtt ctgtcccggg gcccagccc aaagaacctg 2700  
gaaatagtca acaccggcgt tcatcacaca agtagaagat acgaacagca gtgacattag 2760  
gatgattgat ccanggttca ag 2782

<210> 9

<211> 984

<212> DNA

<213> Agaricus bisporus

<400> 9  
ctgcgaattg gcataagcac ttraactttc gtcttcctca ctctcttcag gagattgaga 60  
ctgcatcggg gcaagcgagg gttgccgtac cgccctttga gaccccgaaa caagggattc 120  
gtcaagagca tcaagaagac tagaacgacc ggctgttttt ccacccgaca tcatagcaca 180  
aactgtcata aaccctgtgt caaaggggaa aaacaggcag agagaaggaa gggacgcgtc 240  
gcgatgaaat gctcattaac ctgaatgaca aacttccgcw aataacaatt taattaaana 300  
taaaaatcac gaggtgacaa acaggggtgt ttacctccat tcgactgcat cctggctctt 360  
cccttcata gaactgtcgt ccatgcatgc accgctagca tcgactgct ctgactcgca 420  
taaccttaaa acgcgtggac cccctgttcg gacggccggg tcaggatccg gggctcagga 480  
cacagtaaaa tcacaaaaac tcatactttg agagatatga cttctcgact tgcgccttcg 540  
atggacggac aaattatccc caggtaccgg atctgtgaca ccgaattagt gcgcgatatt 600  
atatatgact tttagcgggc gtctcatatc accgctcaag tccttgggga tggagaatgt 660  
cacctcctgg tccaccgggc ccagagcatt acccggtcat taatctagcg cttcttgcatt 720  
gcactcctgc atgatcacc cagcgggcgg cgttttatcg gacatataag gaacaagatt 780  
ccataggtag tggatccctt actccacctc cgcctactt ttataccaac cccaaatcca 840  
aaggttgaaa aaaaaatttc gacaaggatt tatatatcca tccatccgcg acactttctc 900  
gtttgattct atcccttagt ctttccttct ccccttttc ttcttcaact caccttgctc 960  
taaccgaaag taaacctttc cgcg 984

<210> 10

<211> 1270

<212> DNA

<213> Agaricus bisporus

<220>

<221> misc\_feature

<222> (1262)..(1262)

<223> n is an unknown nucleotide

<400> 10

tatcccat	tt caatccctta	cacgaaatct	gtacttgtag	tcttagaaga	aagtcattgac	60
gttatataga	tcacttacat	agatcttcag	gttttcgtag	atcgacgacc	gacgctctta	120
aatattttatt	tacagttttt	ctgttttttg	ttttattgtc	gcttgatat	aaggtggtat	180
actttgat	at gattgcctac	acacatat	at caacacagtt	ttagttatat	caacatcaaa	240
acatcagtc	a aggaaaacaa	agagcgaacg	ataaacatca	gcacaagtat	gtcagattat	300
ggtccaagaa	cgcgaaaaga	agttcgcaaa	agaacagAAC	actatcgaaa	agtgcgagata	360
catagggtcac	acaattaacg	acttcccgga	atagttccct	ccaacctctt	atcgcgacta	420
ctagcaccaa	cggtaacacc	aaaagtacct	tcaggcctcc	tccatccctg	tgcattcaca	480
tcccaaatac	tcaaatcata	cctcgacaag	gtcattttta	cattcctagt	ctctccaggg	540
ccaatcggta	cagagtcgaa	accgcgtagc	acggaaggag	gttctccagc	agattcaggg	600
aagttaatgt	agagttgggg	agactcggca	cccaaaagtc	gaccggtatt	cttgacgttg	660
aaggaaacct	cgtacaaaag	acgatggagc	ctggaaaccg	gtcagcgtga	aattgttgrt	720
tagagaacco	tcggcgctta	ccaagaagcg	atagaaccac	cttcaacttg	cgggcttgca	780
tgctcttgat	ccattccct	agccgcatca	acttctctac	ctttgacgtg	cactttctta	840
atagatatct	tcgagtaatc	aaacttcgtg	taactcaagc	caaaaccaa	ttcaaaccga	900
ggctcaatgc	cattctgcaa	gagaaaattc	agtaagcgaa	cgtttccgag	agaatcaagc	960
agcactggct	tacagcgtcg	aagtgccggt	aatcgatttg	caaacgatca	tcgtatggta	1020
tagaaagaat	atctcgaata	ccatctccg	ggataacttg	ggccgaataa	tcttcaatcc	1080
gtttggcaat	ggtatatgga	agccttccg	atgggttcca	atctccatat	aggacatcgg	1140
tcaacgaatt	tcccgtttct	gtcccgtgc	cccagcccaa	agaacctgga	aatagtcaac	1200
accggcgttc	atcacacaag	tagaagatac	gaacagcagt	gacattagga	tgattgatcc	1260
anggttcaag						1270

<210> 11

<211> 835

<212> DNA

<213> Agaricus bisporus

<400> 11  
ccttgccgtt ttccagaagc tgcgaccagt cctcggagga gggggaacta aagatgtcga 60  
aagcagcagg gtgtgtgaca tagcgggaag aaaggggat gatgatgaga acgaggggta 120  
cgatgaggac ggcccatctg aattgacggc caacgcgacg tttccggctg tgagaggaca 180  
tggcaaagga gacgggggga ggggcgaggg tggcggagga ggtgctcgtg ccgaattcgg 240  
cacgagctca ccatgaaatt cgcaactgct ctctctgcct gccttactgc tgctgctagc 300  
gtcaccgcg tcctcatcgg atccccctct gaccaagcaa atctttctgc tggccagaac 360  
actacgattc aaattgtact cccgaatttc caatcgtctt cgcaagaagt tgcggtagtg 420  
cttgggatca cgtcctgcgc cgctgctccc tgccctgctc cagccgatac gatgggtcgt 480  
atcctttaca gcggtcattt caaccgcgag agagatcctg caatgcccgc aatgcaagcc 540  
tacgaaaatt tcacgggtctt cttgccggag aacctgccta agggcgcggc gcagattaac 600  
gtttaccatg tcgcacttat cggggccggt ctcatgccat ggaacgagac gttgtccacc 660  
acagctttga ttcagtaatt ccatcaggat ttgaaatgga cctttagtag tttactgttt 720  
tgctatcgaa cgattcgrat aattacctga gatcaggctg gtgactgagg cccgtcggag 780  
tgctaccata atggcataat aaaattatac tcagctgaaa aaaaaaaaaa aaaaa 835

<210> 12

<211> 770

<212> DNA

<213> *Agaricus bisporus*

<400> 12  
tcgggttctc aagctacgat aaccgttcct cacgcatcac attcttctct gattgtaatg 60  
accgaagacc gcggttcac ccctaataatt cgaagagctt gttgccaatg tcaaaaagg 120  
cttttgggca aaccgggatg gcttatcgag cctccagccc cagcagctaa catcgggcag 180  
agaaggaaaa tcatcggcgt tgaattatca ccgtttggtt cctgagtcac ctggagatgt 240  
acgcagatgg tgataccgtg tttgattggc gccgttgag aagaactata ttattcgatg 300  
gattttttgt tcgagtttga cacagagaca gagatgatag aggtttgcta ttgatgtagc 360  
aaaggatcat ttgacgatgg cgcatagggc gatggttatc tttatgtctg gaattataat 420  
atgtattgtt cccactttt cttttatatt tattaatact aattggaagt ttcagttgtt 480  
ggatgagcaa agttggtgca gatagaaact agaattcgga ttcccatatc tgaggtaact 540  
tttcttccg ctggcaatcc tggccacttc gacgtggtga cgcagagggc gcgtgctatt 600  
gttagcacat gccatatgga tcgacgttgc ctctcgtact tcgcgcctag gctcgtcat 660  
gcctcgatgc atctttcaat tcgggcgttg cgtctcccag gtgcctgtta aaaggcgaa 720  
ctttagtgtg attgtactaa cacagtcctt cgggctgagc tctattcatc 770

<210> 13

<211> 703

<212> DNA

<213> *Agaricus bisporus*

<400> 13

```
ataacaattt aattaaaaat aaaaatcacg aggtgacaaa caggggtggt tacctccatt    60
cgactgcatt ctggctcttc ccttccatag aactgtcgtc catgcatgca ccgctagcat    120
cgcactgctc tgactcgcat aaccttaaaa cgctgggacc ccctgttcgg acggccgggt    180
caggatccgg ggctcaggac acagtaaaat cacaaaaact catactttga gagatatgac    240
ttctcgactt gcgccttcga tggacggaca aattatcccc aggtaccgga tctgtgacac    300
cgaattagtg cgcatatta tatatgactt ttgacgggag tctcatagca ccgctcaagt    360
ccttggggat ggagaatgtc acctcctggt ccaccgggac cagagcatta cccggtcatt    420
aatctagcgc ttcttgcatt cactcctgca tgatcacccc acgcgggccg gttttatcgg    480
acataaagg aacaagattc cataggtagt ggatccccta ctccacctcc cgctacttt    540
tataccaacc ccaaatacaa aggttgaaaa aaaaatttcg acaaggattt atatatccat    600
ccatccgga cactttctcg ttgattcta tcccttagtc tttccttctc cccctttcct    660
tcttcacttc accttgcctt aaccgaaagt aaacctttcc gcg                      703
```

<210> 14

<211> 486

<212> DNA

<213> *Agaricus bisporus*

<220>

<221> misc\_feature

<222> (4)..(9)

<223> Restriction site for KpnI

<220>

<221> misc\_feature

<222> (477)..(482)

<223> Restriction site for NarI



<220>

<221> Intron

<222> (277)..(328)

<223>

<220>

<221> Intron

<222> (349)..(408)

<223>

<220>

<221> Intron

<222> (415)..(468)

<223>

<400> 14

cggggtaccg aggtccgcaa gtagattgaa agttcagtac gtttttaaca atagagcatt	60
ctcgaggctt gcgtcattct gtgtcaggct agcagtttat aagcgttgag gatctagagc	120
tgctgtttcc gcgtctcgaa tgttctcggt gtttaggggt tagcaatctg atatgataat	180
aatttgtgat gacatcgata gtacaaaaac cccaattccg gtcacatcca ccatctccgt	240
tttctcccat ctacacacaa caagcttata gccatgggtt gtctctcgct tgcataccat	300
ccagcagctc actgatgtcg actttaggtt taaagttgga atcaacgggt aagtgttttt	360
gtcgtcgcgc tgtggttccg gatcatctca gactttgggt gtcttgagcgt ttcggtgagt	420
gaccaccctg cattctggct atatgctgta tactgacat cgctcaaggt cgtatcggcg	480
ccggcc	486

<210> 15

<211> 57

<212> DNA

<213> Agaricus bisporus

<220>

<221> CDS

<222> (1)..(57)

<223>

<400> 15  
 atg cat ttc tct ttg tct ttt gcc acc ctt gct ctc tta gtc gct tcg 48  
 Met His Phe Ser Leu Ser Phe Ala Thr Leu Ala Leu Leu Val Ala Ser  
 1 5 10 15

gct gtt ggt 57  
 Ala Val Gly

<210> 16

<211> 19

<212> PRT

<213> Agaricus bisporus

<400> 16

Met His Phe Ser Leu Ser Phe Ala Thr Leu Ala Leu Leu Val Ala Ser  
 1 5 10 15

Ala Val Gly

<210> 17

<211> 45

<212> DNA

<213> Agaricus bisporus

<400> 17  
 gtgggattat ggtagccaa atggtcgtag ctaattatct tgcag 45

<210> 18

<211> 47

<212> DNA

<213> Agaricus bisporus

<400> 18  
 gtacgtaggc aagtgggtcc caaaaagcac cagctaacac aacgtag 47

<210> 19

<211> 48

<212> DNA

<213> Agaricus bisporus

<400> 19  
gtacgttgaa tcgtacaaga aagtgtaatc atcctgactt tctatcag 48

<210> 20

<211> 62

<212> DNA

<213> Agaricus bisporus

<400> 20  
gtaagcaccg gctgcgttcg cacaccgctc ttgtgaaaag tcgtctcatg aatatcgccc 60  
ag 62

<210> 21

<211> 51

<212> DNA

<213> Agaricus bisporus

<400> 21  
gtaattaacc tcatacattat tgatcctttc catgcttaca gctgttatca g 51

<210> 22

<211> 52

<212> DNA

<213> Agaricus bisporus

<400> 22  
gtgcgttctt ctcttgctct atcacaaatt ctgacgccgc aggacttgcc ag 52

<210> 23

<211> 63

<212> DNA

<213> Agaricus bisporus

<400> 23  
gcaagcttct cttgtcaciaa tgttaacggc gaggggtctg actcccttgg ttgtttttgt 60  
tag 63

<210> 24

<211> 48

<212> DNA

<213> Agaricus bisporus

<400> 24

gtacgctata gcttgcaagg atggacatat ctaatcgggg acgtgtag

48

<210> 25

<211> 61

<212> DNA

<213> Agaricus bisporus

<400> 25

gtgggttcca tcctctcttg agttatgccg cggctgactg atcatgtttc taatacttca

60

g

61

<210> 26

<211> 46

<212> DNA

<213> Agaricus bisporus

<400> 26

gtgcgtcatg tccgtatcat ctactctcat actaatgcgc atatatg

46

<210> 27

<211> 53

<212> DNA

<213> Agaricus bisporus

<400> 27

gtaggtccct ttatattttg gtccgattgc gtcattcatg tctatatatg cag

53

<210> 28

<211> 48

<212> DNA

<213> Agaricus bisporus

<400> 28

gtaggtttta ttcattccctc tgttcttatc agcttgacat ccttcaag

48

<210> 29

<211> 53

<212> DNA

<213> Agaricus bisporus

<400> 29

gtaagcataa ggagttgctg caggcgaccc atagcgttct aattagctgc tag 53

<210> 30

<211> 52

<212> DNA

<213> Agaricus bisporus

<400> 30

gtatggttga actcaccgat gcgctctttg ttgattttat ttttctacat ag 52

<210> 31

<211> 50

<212> DNA

<213> Agaricus bisporus

<400> 31

gtgggtgatac attcgagggt gtcttcctgt gtattgataa ggtttgctag 50

<210> 32

<211> 45

<212> DNA

<213> Agaricus bisporus

<400> 32

gtcagtacta gtttgttttc tcttacacct tctcattctt tgcag 45

<210> 33

<211> 56

<212> DNA

<213> Agaricus bisporus

<400> 33  
gtgagcactg caatatggta tagcttgga agcctttatt tatacagaac atccag 56

<210> 34

<211> 55

<212> DNA

<213> Agaricus bisporus

<400> 34  
gtgagtgaag atagttctca tgtgagatcc ttgtactaat tgccgaacgt cgtag 55

<210> 35

<211> 690

<212> DNA

<213> Agaricus bisporus

<400> 35  
tatatagtct ccaaattcta ttgtaatgcc attttcccaa ttcaaaagga cccgctctcg 60  
aaccgggtca gatgcaattt tggtcagcaa tggtttatgt tgtttcccg taagtatgca 120  
ctagaagaga acaaaacgtc actatgtgct caatgcagga tgcacctggc gagataatat 180  
tcttgcggtg aagtcgaaca acgtctgtag tcctgtaaaa atatacagt agtagaggga 240  
tgatgccgat gtggaaggaa gcaaccgatt acgattcgga tttggccatg agacggccgc 300  
tcttgaacag accaacaata tccctttaaa tttaatacag aattactcaa tatgcttcca 360  
agtatttcga ttcctcgaat tccgtctggc gcgpgcatga gcatggacag gcggacagaa 420  
gaggctatcg ttgtattgct tcctcagcga ccctgactag tgacttcagg catgatcatg 480  
cgcttagcaa tctgtccctt caagtcgagt ccccgaaattc aacagcttca acaagtcgtg 540  
attatttgac ccccgactgg aatcaaattg gctcttcaaa tttcaaactt caatgcttca 600  
tgcttcatgc gtcacgacgc aagctgtcaa ttttcatttt ccagttcggg cccattctca 660  
ctctcgcccc tcctaattgc ttccagaaaa 690

<210> 36

<211> 910

<212> DNA

<213> Agaricus bisporus

<400> 36  
tatcccattt caatccctta cacgaaatct gtactttag tcttagaaga aagtcacgac 60  
gttatataga tcacttacat agatcttcag gttttcgtag atcgacgacc gacgctctta 120

```

aatatattatt tacagttttt ctgttttttg ttttattgtc gcttggatat aagggtggtat 180
actttgatat gattgcctac acacatatat caacacagtt ttagttatat caacatcaaa 240
acatcagtca aggaaaacaa agagcgaacg ataaacatca gcacaagtat gtcagattat 300
gggtccaagaa cgcgaaaaga agttcgcaaa agaacagaac actatcgaaa agtgcagata 360
cataggtcac acaattaacg acttcccgga atagttccct ccaacctctt atcgcgacta 420
ctagcaccaa cggtaacacc aaaagtacct tcaggcctcc tccatccctg tgcattcaca 480
tcccaaatac tcaaatacata cctcgacaag gtcattttta cattcctagt ctctccaggg 540
ccaatcggtg cagagtcgaa accgcgtagc acggaaggag gttctccagc agattcaggg 600
aagttaatgt agagttgggg agactcggca cccaaaagtc gaccggtatt cttgacgttg 660
aaggaaacct cgtacaaagg acgatggagc ctggaaaccg gtcagcgtga aattgttgat 720
tagagaacct tcggcgctta ccaagaagcg atagaaccac cttcaacttg cgggcttgca 780
tgtccttgat ccattccct agccgcatca acttctctac ctttgacgtg cactttctta 840
atagatatct tcgagtaatc aaacttcgtg taactcaagc caaaaccaa ttcaaaccga 900
ggctcaatgc 910

```

<210> 37

<211> 800

<212> DNA

<213> Agaricus bisporus

<220>

<221> misc\_feature

<222> (5)..(9)

<223> Restriction site for BglII

<220>

<221> misc\_feature

<222> (790)..(795)

<223> Restriction site for KpnI

<220>

<221> misc\_feature

<222> (290)..(290)

<223> n is an unknown nucleotide

<220>

<221> misc\_feature

<222> (498)..(498)

<223> n is an unknown nucleotide

<220>

<221> misc\_feature

<222> (589)..(589)

<223> n is an unknown nucleotide

<400> 37

gaatagatct gatgccgacc gcgggatcca cttaacgtta ctgaaatcat caaacagctt	60
gacgaatctg gatataagat cggttggtgc gatgtcagct ccggagttga gacaaatggt	120
gttcaggatc tcgataagat acgttcattt gtccaagcag caaagagtgc cttctagtga	180
tttaatagct ccatgtcaac aagaataaaa cgcgttttcg ggtttacctc ttccagatac	240
agctcatctg caatgcatta atgcattgac tgcaacctag taacgccttn caggctccgg	300
cgaagagaag aatagcttag cagagctatt ttcattttcg ggagacgaga tcaagcagat	360
caacggtcgt caagagacct acgagactga ggaatccgct cttggctcca cgcgactata	420
tatttgcttc taattgtact ttgacatgct cctcttcttt actctgatag cttgactatg	480
aaaattccgt caccagcncc tgggttcgca aagataattg catgtttctt cttgaactc	540
tcaagcctac aggacacaca ttcacgtag gtataaacct cgaaatcant tcctactaag	600
atggtataca atagtaacca tgcattggtg cctagtgaat gctccgtaac acccaatacg	660
ccggccgaaa cttttttaca actctcctat gagtcgttta ccgagaatgc acaggtagac	720
ttgttttagag gtaatccttc tttctagaag tcctcgtgta ctgtgtaagc gcccactcca	780
catctccacg gtacctgcag	800